

## **PLAYING THE GAME**

Trout Unlimited's engagement with the U.S. Federal Energy Regulatory Commission (FERC) in advocating dam removal on the Clyde River, VT and the Kennebec River, ME

By

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## **ABSTRACT**

Trout Unlimited's engagement with the U.S. Federal Energy Regulatory Commission (FERC) in advocating dam removal on the Clyde River, VT and the Kennebec River, ME

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This paper examines interactions between the non-profit interest group Trout Unlimited (TU) and the Federal Energy Regulatory Commission (FERC) during debates over dam removal. It uses one case study on the Clyde River in Vermont and one on the Kennebec River in Maine, delving into the tactics used by TU and to show how the group's activities contributed to FERC recommendations for dam removal in both cases. Bureaucratic Behavior Theory is used as the framework to analyze agency rules, citizen participation, and agency official's beliefs. Kingdon's Policy Streams framework supports ancillary investigation into the transformation of private economic environmental groups to professionally-managed, science-based groups exemplified by TU. The dam removal scenario introduces a new formula for groups that act as policy entrepreneurs by assembling knowledge communities and actively seeking to apply their solutions. Other interest groups may be able to use this formula to position themselves for success when engaging federal agencies.

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## INTRODUCTION

*“Dam Hetch Hetchy! As well dam for water-tanks the people’s cathedrals and churches, for no holier temple has ever been consecrated by the heart of man!”* (Lowry, 2003, p. 39)

John Muir famously fired an opening salvo in the war between environmental interests and dams, the sterile edifices that have populated the American landscape. The era of dam construction has passed, but the existing facilities continue to quietly disrupt ecosystem flows and wildlife habitats (Frederick, 2006). Environmental groups have begun to suggest dam removal as their preferred solution to the environmental problems caused by dams, but the policy landscape for such action is yet to be determined.

There is no explicit statutory authority covering removal efforts—suggestions for removal usually enter into debates that are started for other reasons, both environmental and economic. Historically, removals have occurred at the urging of wildlife agencies, non-profit groups, and concerned citizens; they have been funded by an equally diverse combination of state, municipal, and private entities (Trout Unlimited, 1999). In short, successful dam removals are still enigmas that depend on corroborating statutory mandates, interest group and citizen participation, and scientific research.

The study of aerodynamics shows that the boundary layer between an airfoil and the free stream yields the most lucid conclusions about lift. Indeed, flight would not be possible without the interactions that occur in this small but influential region. Marked similarities emerge after applying this line of thinking to the study of policy. It is well known that the legislative branch makes the law, the executive branch acts on it, and the judicial branch interprets it. However, it is in reviewing the interface between codified doctrines and the people that implement them that the magic of American government comes to light. It is where the ideas of a nation take flight, buoyed by the dedication of passionate citizens and piloted by bureaucrats striving to fulfill sometimes contradictory mandates.

This paper will examine such interactions between the non-profit interest group Trout Unlimited (TU) and the Federal Energy Regulatory Commission (FERC) during debates over dam removal. It will use one case study on the Clyde River in Vermont and one on the Kennebec River in Maine, delving into the tactics used by TU and showing how its activities contributed to FERC recommendations for dam removal in both cases. The policy arena surrounding dam removal debates is complex, so understanding the basis for behavior of executive agencies and interest groups in American politics is important before commencing a study of their specific interactions.

## **Part I: The Field**

America is blessed with a unique environment in both the political and the natural senses. The ways its inhabitants have interacted with the land and with each other have profoundly shaped the landscape in which Americans live today. Isolated villages of people from across the Bering Strait have given way to teeming metro-industrial centers, supported by ever-intensifying resource extraction and driven by a land ethic rooted in European views of nature. The Judeo-Christian mindset, with its biblical origins, led some to an interpretation that “dominion” over nature ordained human use of its resources for exclusive and individual utility (Kline, 2007). As a result, little thought was given to the environmental degradation that accompanied expansion because the supply of resources was perceived to be endless.

The first European inhabitants came to the New World attempting to succeed in a land far away from the “memories of hunger and social abasement” that characterized their existence in Europe (Kline, 2007). This gave rise to a definition of success that emphasized individuality and self-sustenance over the common good. Most early Americans were “cornucopians, who saw the earth’s resources as endless and there to be exploited by humanity for its material needs” (Nester, 1997, p. 1). This Dominant Social Paradigm (DSP) supported the idea that technology and human ingenuity could overcome any obstacle presented by the surrounding world, and the mantra became increasingly ingrained in the DSP of the American states as they rejected British rule in the War of Independence and found respect on the world stage with the War of 1812

(Smith, 2009). The inferiority complex that haunted the American colonies was replaced with a nationwide hubris, and this attitude was extended to the natural resources of the inchoate world power.

Their haughtiness provided the new Americans with the “conviction and fortitude” to survive, but the ease with which they were able to appropriate lands from Native Americans contributed to a conception that land in America was completely open for exploitation (Kline, 2007, p. 22). As a result, “land ownership became the recognized path to riches and high office” for the New World nobility (Kline, 2007, p. 17). Mono-cultural husbandry was the pervasive use of private land in the colonies, particularly in the southern areas where tobacco had been making plantation owners rich since before the founding of the nation (Kline, 2007). This single-mindedness of purpose, lauded as the most efficient way to civilize the wilderness and achieve financial gain in the 18<sup>th</sup> century, relied on a limited view of the environment that would only be challenged in the latter half of the 20<sup>th</sup> century. The cornucopian exploitation of land that was seemingly available for free also underscored the Manifest Destiny espoused by frontiersmen as they pushed farther west, repeating the same formula of conquering, clearing, and colonizing for over a century (Nester, 1997).

Urban expansion driven by the industrial revolution in the late 1800s brought with it a host of more subtle changes that would still have a profound impact on the American mind-set. Advances in farming technology that presaged the Green Revolution of the 20<sup>th</sup> century were beginning to appear in the late 19<sup>th</sup> century in



response to greater food demand from the big cities (Nester, 1997). Irrigation of fields and the use of fertilizers led to increases in crop yields. Larger harvests necessitated new distribution methods to carry food from the fields to the tables of inner-city families gradually adjusting to industrialized life.

The niche was filled by a new prime mover, the steam engine, and subsequent expansion of railroad networks (Crosby, 2006). Between 1840 and 1860 the amount of track in American grew sevenfold to 21,000 miles, and the first transcontinental route was finished in 1869 (Kline, 2007). This was the first of many watershed moments when the land which never seemed to end for the frontiersmen began to seem more and more crowded for its later inhabitants. Through the industrial age the American environment became increasingly strained, until it was no longer possible to hide the effects of expansion. Voices in the wilderness like those of Henry David Thoreau, George Perkins Marsh, and John Muir began speaking out against what they perceived to be the debasement of nature by their fellow Americans (Smith, 2009). Still, they were a distinct minority.

The first politically recognizable group that tried to tackle environmental issues was the Progressive Conservationists. Theodore Roosevelt took office in 1901 as the 26<sup>th</sup> President of the United States, a military hero, lover of the outdoors, and—ironically—harbinger of a century that would see unprecedented assaults on the natural environment. The Progressives campaigned against the excesses of the industrial age, asserting that the profligacy of the previous 50 years had eroded the soul of America

(Kline, 2007). Roderick Nash observes that the historical perception of nature was reversed at the turn of the 20<sup>th</sup> century; humans now felt in control, but recognized for the first time the finite nature of the resources on which they depended (Nash, 1968).

Progressivism represented a nation-wide movement to control undesirable actions, fix social issues, regulate large industry, and protect natural resources. Its leaders obsessed over making the government serve the best interests of the most people in the most efficient way possible. Teddy Roosevelt presided over an executive branch that worked to balance the concerns of the new environmentalists with the emerging needs of the nation's burgeoning population. As a Progressive, he believed that "efficient regulation and practical use of natural resources...was the best way to protect the nation's natural resources and allocate them more fairly" (Kline, 2007, p. 54). Roosevelt expanded the federal government and created bureaucracies to handle the complex responsibilities associated with controlling the nation's natural resources. This strategy led to the rise of "a professional cadre of bureaucratic scientific elites within distinctly divided and hegemonic governmental agencies" (Wright, 2006, p. 13).

Gifford Pinchot was at the helm of one such agency, the U.S. Forest Service, after it was created in 1905. Through his work with the Service Pinchot became the most recognizable figure aside from Roosevelt in laying down the new Conservationist agenda. Quoted in his biography, Pinchot averred that "the object of [the nation's] forest policy is not to preserve the forests because they are beautiful...or because they are refuges for the wild creatures of the wilderness...but...the making of a prosperous

home. Every other consideration comes secondary” (Smith, 2009, p. 17). Although Roosevelt was passionate about natural beauty, he had to agree with Pinchot, and stated that “the preservation of [the nation’s] national forests is an imperative business necessity” (Kline, 2007, p. 54).

The bureaucrats of the Progressive era were, by and large, well intentioned. As Dr. Tomas Koontz notes, Teddy Roosevelt’s reforms “called for neutral bureaucrats with technical expertise to closely follow directives from elected officials.” However, “in practice agency officials [had] considerable autonomy from their political masters” (Koontz, 2002, pp. Location 1,648 (Kindle)). Even when agency officials shared similar ideologies, internal disagreement could leave officials open to influences extraneous to the original mandates of their agencies. Also, because so much power was now concentrated in the hands of bureaucrats, other groups organized in order to exert influence over agency decision-making. This not only complicated internal relations in the executive branch, it also necessitated congressional intervention to obviate the capture of agencies by special interests.

Pluralism was in many ways a result of the monumental integration of environmental decision-making accomplished by the Progressive movement. Although World Wars I and II diverted attention from domestic environmental concerns, the post-war era saw a flowering of private-economic groups (PEGs). Environmental groups of this type worked to achieve specific benefits that were not automatically available to society at large, such as improved recreational fisheries, even though the effects of their

activities usually benefited more than just their members. In this way they were different from older environmental groups that worked for collective environmental benefits like clean air and water (Smith, 2009). Although activities of the two types frequently coincided, membership in PEGs was sold for specific purposes to limited audiences, giving them a fundraising advantage. PEGs, purporting to represent the specific desires of vast memberships, brought concentrated effort to bear on bureaucrats as the latter acted on policies sent down by the legislative branch.

PEGs were not idle in Congress either. They played a large role in setting the stage for congressional action in the environmental decade of the 1970s. Federal statutes such as the National Environmental Policy Act (NEPA) and the Clean Water Act created new procedural requirements for projects, and the Endangered Species Act gave implicit legal standing to environmental concerns. NEPA mandated Environmental Impact Statements (EIS) for all “major federal actions significantly affecting human environment” (National Environmental Policy Act, Section 102(c)). NEPA further required that an EIS be “circulated among state, local, and federal agencies as well as the public,” providing an opening for participation by interest groups and citizens (Smith, 2009, p. 65).

The “tug of war between cornucopians, conservationists, and environmentalists shifted towards the latter when...[EIS] were required before development was allowed” (Nester, 1997, p. 3). Interest groups were now able to bring suit against undesirable policies, but soon found that litigation drained their coffers. They turned back to the

executive agency arena to affect implementation of legislative statutes, commenting on procedural documents such as EIS before resorting to battles over interpretation in the courts. In this way the executive branch became the preferred battle ground, as unfettered resource extraction—a norm for over two centuries—was challenged by a new science that was based on more integrative approaches.

## **Part II: The Rivalry**

It is necessary to return to the beginning of the 20<sup>th</sup> century for an understanding of the role dams played in the development of America and an appreciation of their ecological impact. The Progressives were dam builders. The “doctrine of wise use” promoted by President Roosevelt, Pinchot, and the Executive Branch provided ample justification for damming rivers and impounding vast quantities of water for irrigation, power, flood control, and recreation (Kline, 2007). Water projects became the preferred means to develop the remaining natural areas after the great expansion of the 19<sup>th</sup> century. In 1902, Roosevelt signed the Reclamation Act. Although there was little fanfare at that time, the action ushered in perhaps the most prolific dam construction period the world had ever known. The Reclamation Act laid the groundwork for the Bureau of Reclamation, which according to Congress was created to manage the “storage, diversion, and development of waters for the reclamation of arid and semiarid lands in the western United States” (Lowry, 2003, p. 30). By the middle of the 20<sup>th</sup> century the American west flashed green with irrigated

fields and sparkled blue with the fountains of cities constantly doing battle to retain rights to their water supplies.

Private dam construction expanded on the coattails of the federal program, so the Progressive Congress passed the Federal Power Act in 1920 after a decade of political wrangling. It was a characteristic effort to preempt formation of monopolies in the private hydroelectricity sector, but the new law also signaled defeat of “national planning for multiple-purpose use of water resources” (U.S. Department of Agriculture, 1972, p. 5). In a “radical delegation of power to the Executive branch,” the act created the Federal Power Commission (FPC) (U.S. Department of Agriculture, 1972, p. 9). This single agency was entrusted with far-reaching authority over how and when dams would be constructed on national waterways. Congress further empowered it to determine how power from Federal dams could be “advantageously used by the United States for its public purposes” and to set “a fair value of such power” (U.S. Department of Agriculture, 1972, p. 9). These early water laws effectively limited dam policy to the realm of a few very autonomous executive agencies and resulted in the capture of those agencies by hydropower interests.

The majority of western dams were constructed by agencies of the Federal government, but in the eastern states the majority were privately owned and operated. In the northeast smaller dams dotted the landscape as vestiges of the logging and paper industries, which had used dams since the mid 1800s to increase water levels for log drives and to provide water power for their mills (Frederick, 2006). During the period of

most intense dam construction from 1920 to 1950 environmental degradation was realized on a massive scale as dams visibly disrupted water levels and flows. Vermont, for instance, has the highest number of dams per capita of any state (Witten, 1994). However, many deleterious ecological effects of dams were insidious and not readily available to the eyes of Americans in the first half of the 20<sup>th</sup> century. Fisheries gradually waned and disappeared, and sediment began quietly piling up behind dams below the surface of the water. Scientists began to discover that dams “altered water temperatures” and “diminished the protective cover and aquatic plants needed by young fish,” but little action was taken to mitigate these effects (Frederick, 2006, p. 24).

Many of the industries that constructed dams brought with them other forms of pollution. Factories of the paper industry sucked water in above their hydroelectric dams, used it in the papermaking process, and released it directly into the river below them as means of disposing of unwanted—indeed, dangerous—chemical byproducts. After the Clean Water Act and the Endangered Species Act were passed, interest groups and concerned citizens started to search for culprits whose activities were governed by the recent environmental legislation. After looking more carefully, they began to realize that “dams [were] not the environmentally benign objects their developers and society once thought they were” (Wright, 2006, p. 9). Dams, particularly those held privately, became associated with industrial pollution and loss of fisheries. Hydroelectricity was a prime target, as the aging technologies used in most power-producing dams were inefficient and would require upgrading as their useful lives drew to a close.

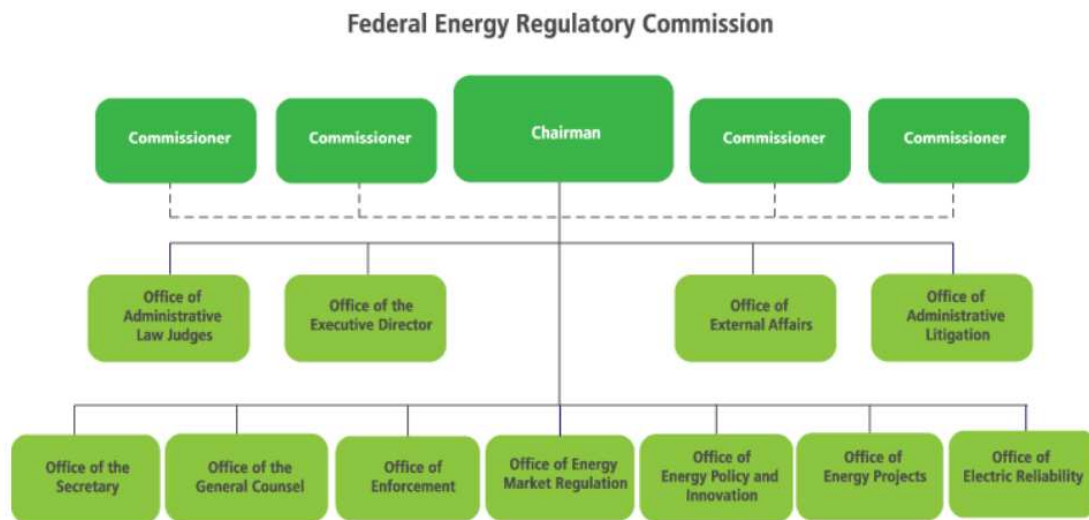
### **Part III: The Players**

In a span of less than a century, dams had fallen from grace. Once hailed as beacons of human and scientific triumph, many now saw them as antiquated contraptions clogging natural flows of the environment. The stage was set for the dam removal movement. The central players in the two dam removal case studies examined in this paper were the Federal Energy Regulatory Commission and Trout Unlimited.

#### **1 – FERC**

Federal Energy Regulatory Commission (FERC) was created in 1977 by an act of the U.S. Congress and inherited the energy and commerce responsibilities of the Federal Power Commission. Actions of FERC are determined by five Commissioners, each of whom is appointed by the President. No more than three Commissioners can be of the same political party (Wright, 2006). The FERC employs almost 1,300 people in eleven offices as shown in Figure 1 (Federal Energy Regulatory Commission, 2006).





**Figure 1: FERC Organization Chart**

(Federal Energy Regulatory Commission, 2011)

The FERC's jurisdiction covers "nonfederal hydropower projects that occupy federal lands, involve navigable streams, use water from a federal project, or were constructed after 1935 on non-navigable streams that affect interstate or foreign commerce" (Lowry, 2003, p. 51). Its main authority rests on the licensing and inspection of about 1,011 hydroelectric installations nationwide; licenses are granted for 30 or 50 years, depending on the expected useful life of technologies or structural elements (Wright, 2006). According to *American Rivers*, more than 150 sizeable hydropower dams on 130 rivers will require relicensing in the early years of the 21<sup>st</sup> century (Lowry, 2003).

The relicensing process starts five years before the existing license is set to expire, when the licensee notifies FERC of its intentions to file for renewal, and its

request is published in the Federal Register. Dam Politics contains a brief outline of the ensuing process:

“The licensee is then supposed to prepare, in consultation with other agencies, records documenting project operation, financing, and environmental impact. Two years prior to expiration, the licensee submits a relicensing application to the Commission. Interest groups, the public, and other agencies can review the documents and request further elaboration. The Commission can mandate the licensee to conduct additional studies. After completion of those studies, the Commission will accept the application for environmental review. This review consists of an environmental assessment, unless significant environmental impacts warrant a full-blown environmental impact statement. These reviews consider the licensee’s request as well as alternatives to the proposed project. After evaluating these materials, the Commission designates a preferred alternative, which may or may not be the applicant’s proposal. Other agencies and interested parties can comment on this document. Commissioners then make a decision on renewal. If other parties, including the licensee, are not happy with the decision, they can request a review of the five commissioners. Any subsequent decision can be appealed to the U.S. Court of Appeals” (Lowry, 2003, p. 52).

Until the 1980s Commissioners of the FERC had expressly followed the 1920 Federal Power Act mandate and remained “sympathetic to the needs of the water and power industries and concurrently...insensitive to environmental concerns regarding rivers” (Lowry, 2003, p. 52). The language of the FPA also required FERC to give

preference to state and municipal concerns over those of private companies in regards to hydroelectricity rights (Lowry, 2003). In 1986, the Electric Consumer Protection Act (ECPA) was brought before Congress in an effort to level the playing field. In addition to providing equal footing to private entities, the law inserted new and stronger requirements for taking into account environmental concerns during the relicensing process. Most notably, it introduced the requirement of preparing an EIS under NEPA rules (Lowry, 2003, p. 52). As is frequently the case with federal legislation, the ECPA used compromise language to equivocate between concerns of hydropower and environmental interests. The FERC was to give “equal consideration” to ecosystem factors in its decision-making. In all, the agency was given “substantial discretion in application of the mandate” (Lowry, 2003, p. 47).

Several rules were specified in the act to encourage greater accessibility for non-hydropower concerns in the relicensing process. FERC was to base its recommendations for mitigating the adverse effects of relicensing proposals on recommendations from state and federal wildlife agencies. Congress shored up the first rule by forcing FERC to publish findings elucidating the reason for disagreement with environmental recommendations from other agencies. The Commission was also required to negotiate with the agencies should any disagreements occur (Lowry, 2003). Despite the potential for ambiguous interpretation of the statute, ECPA opened the door to greater interest group involvement and citizen participation in the relicensing process.

## **2 – Trout Unlimited**

Trout Unlimited started in 1959 as a gathering of sixteen anglers in Grayling, Michigan, near the banks of the Au Sable River. Its strength has long been attributed to the “number of people that [TU] has in the field” (Orvis, 2011, p. 1). Although it was started in Michigan, the framework of the organization encouraged chapters to form throughout the nation. In this way activism was focused at local problems, but had the clout and support of a national-level organization. This combination would stand TU in good stead throughout its rise to national prominence. The group currently boasts more than 150,000 members in 450 chapters nationwide (Orvis, 2011).

In 1993 Trout Unlimited created a “scientific and research program” funded by an earmarked Coldwater Conservation Fund (CCF). According to TU, the rationale was “simple and straightforward: Despite TU’s solid reputation for grassroots conservation work and its emerging presence as a national fisheries advocacy group, the organization badly needed a reliable source of technical expertise” (Trout Unlimited, 2011, p. 1). In this way Trout Unlimited branded itself as a valuable participant in dam removal debates, and by the mid 1990s was “systematically seeking to influence major land, water and species management decisions throughout the range of coldwater fish habitat in the U.S.” (Trout Unlimited, 2011, p. 1). According to Orvis’s Tom Rosenbauer, TU is successful because the organization uses “scientific methods to determine [its] course of action and as a result has had significant success in building consensus and support” for the projects in which it is involved (Orvis, 2011, p. 1). As a PEG, TU was

able to mobilize substantial resources in a relatively short period of time from its highly-focused membership to fund its CCF. The solid technical reputation that the organization built underpins the central role that TU occupies in the dam removal movement.

## **Part IV: The Rules**

Bureaucrats have a tough job. While trying to fulfill seemingly conflicting mandates from the legislature they are alternately lauded by one interest group and excoriated by another. Bureaucratic Behavior Theory (BBT) provides a framework for examining the complex decision-making processes of executive agencies. By attempting to separate different spheres of influence and delineate their effects, BBT can yield insight into the motivations that lead to decisions within an agency. BBT asserts that the decisions made by executive agencies are affected most by rules, citizen pressure, agency officials' beliefs, and agency community (Koontz, 2002). This paper will emphasize the first three parts of BBT in examining the relationship between the FERC and Trout Unlimited.

Rules "define which actions are required, prohibited, or permitted and the sanctions prescribed for transgressions" (Koontz, 2002, pp. Location 1,090, Kindle). In short, rules are the most direct indications for bureaucrats of the behavior expected of them by their political bosses. In recent years the statutes pertaining to the environmental and energy landscape of the U.S. have become increasingly specific and

strident in their requirements for citizen participation. This has been a central factor in promoting outside participation in agency decision-making processes. Statutes also prescribe planning processes through which an agency must navigate before rendering a decision. With FERC, this involves the aforementioned public comment periods and possible requirement of Environmental Impact Statements. An EIS is released in draft form for public comment before being finalized by the agency, providing another valuable forum for discussion between interested parties (Smith, 2009).

Citizens have the capability to significantly affect the outcome of agency decisions. This is due partly to statutory mandates and the organization of interest groups, but can also be attributed to the likelihood that citizens who involve themselves in the policy process are extremely passionate and knowledgeable advocates. They are frequently close to the problem at hand, and can provide a valuable source of information to bureaucrats. Trout Unlimited Chapter members are sometimes among the few individual citizens involved in dam removal debates, and backing by Trout Unlimited National means that their participation can have a substantial effect on FERC's recommendations.

Agency officials, although beholden to fulfilling statutory mandates, also form their own opinions of actions which they are charged with overseeing or implementing (Koontz, 2002). The degree to which personal beliefs are reflected in agency policy varies across agencies, owing to different degrees of freedom afforded by rules or specific situations. FERC is required under the ECPA to adhere to a set decision-making

process. Furthermore, the secondary reporting and negotiating requirements make outright confrontation with wildlife agencies and groups undesirable to the Commission. Lowry notes that FERC employees have cited “the impact of new mandates as influencing their own behavior” (Lowry, 2003, p. 53). As a result of ECPA and NEPA, FERC officials in the late 1990s were predisposed to considering environmental concerns, creating an opportunity for Trout Unlimited to advocate dam removal.

Examination of the fourth facet of BBT, agency culture, is outside the scope of this work. For the purposes of examining the effects of TU on agency decision-making, it is only necessary to note that a distinct change occurred in agency culture at FERC. President Clinton appointed new Commissioners to the FERC in 1993 at the urging of US Senator James Jeffords (RVT), who noted that the FERC had “too many commissioners from the oil and gas industry” and that it was “time for a change” (Witten, 1994). One official, who began working in the agency in 1993, confirmed that it was a “transitional time” and implied that by the mid 1990s the agency was no longer sweeping environmental concerns “under the carpet” (Lowry, 2003, p. 6).

BBT is useful for examination of FERC’s behavior because “none of [the agency’s] enabling legislation sets forth procedures for removing hydroelectric dams. In the absence of specific rules covering removal...FERC and other relevant agencies can be expected to develop appropriate policies as removal proposals are implemented” (The H. John Heinz III Center for Science, Economics, and the Environment, 2002, p. 63). The public application review process mandated under ECPA, and comment solicitation for

Draft Environmental Impact Statements (DEIS) under NEPA, offer interest groups and concerned citizens opportunities to participate in formation of agency policy. It can be reasonably assumed that agency officials' opinions and the effects of agency culture are expressed in the initial recommendations and DEIS. Following this logic, the effects of intervening entities are manifest in the changes realized in the FERC's final recommendations.

Interest groups fall into two main categories: expressive and instrumental. Expressive groups use "emotional and ethical appeals...and rely more on indirect lobbying...to attract the attention of the media and the general public" (Smith, 2009, p. 22). Most PEGs place paramount importance on their ability to deliver on the promises of action made to their memberships, identifying them as instrumental groups willing to participate in conventional processes to encourage predefined policy outcomes (Smith, 2009). Furthermore, by differentiating themselves from other organizations competing for funds and memberships, PEGs can garner focused support for key initiatives. The general transformation of environmental non-profits to professionally-managed, science-based groups (as occurred with TU and its CCF in the 1990s) reflects a new formula for groups that assemble knowledge communities and actively seek to apply their solutions.

John Kingdon's Policy Streams framework is a proverbially useful tool for understanding how instrumental PEGs achieve results. The Streams model establishes that in the policy arena there are policy entrepreneurs who establish solutions and then



search for problems. They then work to get their solution onto the policy agenda by engaging relevant parties. The framework hinges on people or organizations who are “willing to invest their resources in pushing their pet proposals” politically and who are responsible for “coupling both problems and solutions to politics” (Kingdon, 2002, p. 20). The policy entrepreneurs pursue problems and seek to get their solutions onto the policy agenda. In order to simplify actions in a complex policy environment, PEGs such as TU become experts on a specific set of solutions. Their members act as policy entrepreneurs, finding opportunities to apply the group’s solutions.

Although Trout Unlimited has benefited from both expressive appeals and instrumental tactics, its success in dealing with the FERC is largely the result of its willingness to debate in established policy arenas. It has identified itself as a legitimate interest group with long-term stability and higher levels of organization, and appears to command the same level of respect in agency circles as state and federal wildlife agencies. Trout Unlimited uses the comment opportunities required in the ECPA relicensing and Environmental Impact Statement processes as forums in which to suggest its dam removal solution. The CCF supports the scientific grounding for its proposals, which are frequently combined with other agencies or non-profit organizations in submittals to the FERC during the draft stages of the relicensing debate.

## **Part V: The Game**

It has been established that FERC adheres to a rigid set of rules when reviewing relicensing procedures. A review of the Electric Consumer Protection Act demonstrated that revision of the FERC mandate and addition of statutory requirements shifted a century-old agency mantra to be more favorably disposed towards environmental concerns. Interest group strategies for interacting with federal agencies, in particular those applied by Trout Unlimited, have also been highlighted. A review of two important case studies using BBT and the Policy Streams model provides insight into agency decision making and interest group strategy.

### **1 – Vermont**

“Detroit may boast of its autos, Pittsburgh of its steel, and Boston of its beans, but up Newport way it’s salmon that bust vest buttons and make local chests puff out” (Ross, 2008, p. 37). So stated an article in *Vermont Life* about the town of Newport, Vermont which is located where the Clyde River ends its 25 mile long trip through the northern part of the state and spills into Lake Memphremagog. In spring the landlocks, a unique and geographically isolated population of salmon, emerge from the lake to “charge up the Clyde, stuffing themselves on smelt spawning in the river” (Ross, 2008, p. 36). Again in the fall they run up the Clyde, but this time to spawn. The biannual runs of landlocks were legendary in the first half of the 20<sup>th</sup> century, with anglers coming from near and far to line up “shoulder to shoulder on the town’s railroad bridge” for the chance of catching “tackle breakers” of up to twelve pounds in weight (Ross, 2008, p.

36) (Hickoff & Plumley, 2007, p. 117). The town prospered during these years, but a series of dams constructed on the river by privately-held Citizens Utility caused a collapse of the once-mighty salmon runs on the Clyde.

In 1959 Citizens completed No. 11, its fourth dam on the river. The facility was 19 feet tall and 90 feet long, and cut off the remaining 2,100 feet of the Clyde River available to the salmon (Trout Unlimited, 1999). Its generating capacity was a mere 2,000 kW, less than two percent the size of an average hydroelectric dam in the Tennessee Valley Authority network (Tennessee Valley Authority, 2010). Citizens Utility commenced work on the project without bothering to secure the required permits, so the state of Vermont was essentially forced to grant permits after the work was well underway (Ross, 2008). Prevention of fish passage and interruption of flows damned the Memphremagog landlocks population as “spawning beds went dry” and fish kills occurred on such a massive scale that “the county health officer was greatly concerned” by the carnage (Trout Unlimited, 1999, p. 34). The state of Vermont, in a report later filed with FERC, tersely confirmed that “the net effective habitat is effectively zero” (Trout Unlimited, 1999, p. 34).

Citizens Utility had applied to FERC to relicense all of its facilities on the Clyde River, including the No. 11 dam for fifty years in 1989. A group of volunteers belonging to the Northeast Kingdom Chapter of Trout Unlimited, and later known as the “Heroes of the Clyde,” banded together and started a grassroots campaign that included “river clean-ups, flow monitoring, and consensus building among sportsman’s clubs, city and

county governments, state and federal agencies, and elected officials at state and national levels” (Ross, 2008, p. 38). The group included a diverse array of people including a dairy farmer, a school teacher, and a local store owner. As a result of the Northeast Kingdom Chapter’s activities, Trout Unlimited National, the state of Vermont, and both state and federal wildlife agencies entered as formal parties to the relicensing decision after Citizen’s relicensing proposal was made public.

Just two days after the state of Vermont joined the TU coalition in 1994, spring rains combined with the last of the snowmelt and induced the Clyde to flood (Hickoff & Plumley, 2007). During the night No. 11 began to seep water near the clay-rich bank and by morning had failed due to construction errors. The river was pouring through in a “rampaging cataract that rapidly ate away the hillside,” quickly inundating spawning beds that had been dewatered for almost half of a century (Ross, 2008, p. 38).

The fight was far from over, however. FERC hurriedly approved Citizen’s plan to repair and reinforce the No. 11 dam (Trout Unlimited, 1999). The power company began shoring up the eroded bank with heavy equipment, but demonstrated almost comical recidivism by again failing to secure the necessary permits for construction. During an appeal of the FERC decision, photographs taken of the work in 1994 by members of the Northeast Kingdom Chapter helped secure a stop-work order from the Environmental Protection Agency (Ross, 2008). Nine months later FERC released a draft Environmental Impact Statement based on the scientific testimony of Trout Unlimited and wildlife agencies. The Commission recommended removal of No. 11 as the

preferred alternative—in contradiction to Citizens’ proposal. The utility had originally proposed to maintain minimum flow interspersed with peak power generation operations at No. 11 (Federal Energy Regulatory Commission, 2011). FERC found that although the measures represented “significant enhancements,” they did not “deal effectively with fishery issues raised by numerous commentators” (Federal Energy Regulatory Commission, 2011, p. 13).

Despite Citizen’s strident objections, the final EIS released in 1996 maintained the removal recommendations. Finding that the other dams in the application could still produce profit, the report stated that removal of No. 11 “would provide the necessary balance between the hydropower use and the environmental benefits and enhancements” (Trout Unlimited, 1999, p. 34). The EIS cited benefits such as “greatly enhanced salmon, steelhead, and walleye habitat” that would “dramatically improve fishing opportunities” (Trout Unlimited, 1999, p. 34). Following the release of the EIS, all parties arrived at a settlement to avoid potentially exorbitant court costs. Under the settlement the No. 11 dam was removed at Citizen’s cost on August 28, 1996, allowing for uninhibited spawning of the remaining landlock salmon in Lake Memphremagog later that autumn (Trout Unlimited, 1999).

## **2 – Maine**

Trout Unlimited’s Kennebec Valley Chapter wanted to “KRAC a hole” in Edwards Dam on the Kennebec River in Maine (Trout Unlimited, 2011). The dam was relatively large (24 feet high by 917 feet wide) and was built in 1837 to facilitate navigation for

logging and power for sawmills (Trout Unlimited, 1999). It had helped fuel the growth in the Augusta area through the turn of the 19<sup>th</sup> century, but its utility had since dwindled. In the 1990s it provided less than one tenth of one percent of Maine's electricity, which was sold at between four and five times the market rate (Trout Unlimited, 1999).

The Kennebec River flows almost 150 miles from the lakes of western Maine before spilling out into the Atlantic Ocean. The Edwards Dam led to a serious decline of the river ecosystem. It reduced habitat from 50 miles to less than half a mile for Atlantic salmon and several other species of fish, including Atlantic sturgeon (Lowry, 2003). The industries and towns upstream habitually dumped chemicals and sewage into the Kennebec, so by the middle of the 20<sup>th</sup> century "the condition of the river was so foul that government houses in Augusta kept their windows closed in the summer to try to keep out the smell" (Lowry, 2003, p. 75). One of the founders of the Kennebec Coalition offered a memorable anecdote from in his early years, reminiscing that "if you fell in the river, they would take you straight to the hospital!" (Lowry, 2003, p. 75). In the early 1980s, members of the Kennebec Valley chapter of TU started advocating for the removal of Edwards by forming the Kennebec River Angler's Coalition (KRAC). The group worked with the University of Maine's Extension program to participate in policy forums and later published a catalog of the Kennebec fishery and a summary of issues that needed to be resolved before the Edwards Dam could be removed (Trout Unlimited, 2011). The original 30 year license of the dam was set to expire in 1993 so the licensees, Edwards Manufacturing Co. and the city of Augusta, began the relicensing process. Augusta received 3% of the energy revenues from the dam in return for

entering as co-licensee (Lowry, 2003). The informal KRAC alliance subsequently merged with American Rivers, the Natural Resources Council of Maine, and the Atlantic Salmon Federation into the Kennebec Coalition to “intervene in the relicensing process and to advocate fisheries restoration in the river” (Trout Unlimited, 2011, p. 1). Members of TU felt that “as the lowermost obstruction on the main stem of the Kennebec River,” the Edwards Dam was “the single most important impediment” to the survival of the fisheries in the river (Lowry, 2003, p. 75).

The parties involved viewed the relicensing as a test case for establishing FERC’s authority to “order dam removal to restore significant river ecosystems” (Trout Unlimited, 1999, p. 60). However, the process dragged along and FERC began granting the licensees annual operating permits in the years after 1993 (Lowry, 2003). In 1994 the decision on the Clyde River officially established FERCs ability to recommend dam removal. The Edwards Manufacturing Co. and the City of Augusta amended their proposal, removing plans for expansion but still trying to maintain the dam’s hydroelectric capacity (Lowry, 2003). Despite the advocacy of the Kennebec Coalition against this alternative and the Commission’s newfound authority, the FERC published a draft Environmental Impact Statement in 1996 recommending the construction of fish passage facilities but not dam removal (Trout Unlimited, 1999). As William Lowry notes in Dam Politics, the addition of fish passage would have cost the licensees over \$10 million for technology that was not even proven to be effective (Lowry, 2003).

In the ensuing comment period Trout Unlimited and the Kennebec Coalition, along with state and federal wildlife agencies, submitted over seven thousand pages of filings demonstrating that “four of the seven fish species had never successfully used fish passage devices; that even if fish passage were effective, the dam would still flood the critical spawning habitat for many of the target species; and that fish passage for just three of the species cost more than dam removal” (Trout Unlimited, 2011) (Trout Unlimited, 1999, p. 61). All of the objections were verifiable and science-based, and the last economic argument was among the most potent for changing the FERC’s decision. The Kennebec Coalition also presented economic data showing that removal of the dam would generate “at least \$48 million through sport fishing alone” (Lowry, 2003, p. 77).

At an early hearing on the initial FERC decision “[TU] chapter members were pivotal...when they stayed late into the evening, well after paid consultants hired by the dam’s owner had left, and convinced FERC officials to rethink portions of the draft EIS” (Trout Unlimited, 2011, p. 1). In a conspicuous example of how citizen participation altered FERC’s interpretation of the situation on the Kennebec, one of the Commissioners said to another during the hearing that “we got this wrong” (Lowry, 2003, p. 79). Also notably, Lowry specifies that during the same meeting fisherman “ultimately engaged the Commission *staffers* in a discussion of science and economics and ecology” (emphasis added) (Lowry, 2003, p. 78).

After considering the facts presented to them, the Commissioners released a final EIS in 1997, this time recommending removal of Edwards Dam (Trout Unlimited,



1999). The commission had found that installing the required fish passage facilities would cost 1.7 times the cost of removing the dam and that retiring the dam would open “17 miles of historic spawning grounds,” with concurrent increases in “wetland habitat, recreational boating, and fishing benefits” (Trout Unlimited, 1999, p. 61).

In 1998 the Commissioners voted 2-1 to deny the relicensing application from Edwards Manufacturing Company and the City of Augusta, but did not specify “the date for removal or the arrangements for financing” (Lowry, 2003, p. 79). FERC left these specifics to be determined by the other parties. Given the substantial cost of removing the dam, the Kennebec Coalition entered into negotiations with the other involved parties to find a viable solution. The eventual agreement was signed in May 1998, and included a multi-faceted approach to raising the \$7-9 million required for dam removal and fisheries restoration efforts (Trout Unlimited, 1999). Ownership of the dam was transferred to the state of Maine, although no state or federal funds were used for the subsequent operations. Funds were secured from the Kennebec Hydro Developers Group in return for reprieves in fish passage requirements on facilities upstream of the dam site, and Bath Iron Works (a shipbuilder) committed funding in partial mitigation for its expansion into the Kennebec downstream (Lowry, 2003). FERC approved the agreement and transferred the license for the dam to Maine in late 1998. The dam was removed in the second half of 1999 (Trout Unlimited, 1999).

Like the activities surrounding Dam No. 11 on the Clyde River, the efforts to remove the Edwards Dam were started by grassroots organization of volunteers and

finished with a broad coalition of professional national-level groups. Trout Unlimited maintained a presence at both levels throughout the process. Its members provided an impetus almost two decades before the dam's eventual removal, and the local Kennebec Valley Chapter committed \$2,000 every year until the goal was accomplished. As the debate escalated, Trout Unlimited National once again stepped in to provide support and technical expertise, however local Trout Unlimited members still "participated at all public hearings throughout the process" (Trout Unlimited, 2011, p. 1).

## **Part VI: Conclusions**

Both the Clyde River and the Kennebec River cases represented seminal developments in the debate over dam relicensing. In the Clyde River case FERC rendered an unprecedented recommendation for dam removal in an environmental impact document, distinctly against the wishes of the dam owner. FERC again exercised its authority in 1997 when it denied an application for relicensing in favor of dam removal on the Kennebec River. This was different from the Clyde River case because in Vermont the FERC had dealt with only a single portion of the comprehensive relicensing application from Citizens, and did not revoke the entire license application as it did in Maine. It is also interesting to note that although the Edwards Dam removal garnered substantially more media coverage than No. 11 on the Clyde, the case in Vermont set the precedent that was vital to achieving victory. In *Success Stories*, a document

released by Trout Unlimited in 1999, the organization reviewed the Newport No. 11 removal saga and pointed out that “for the first time, the Federal Energy Regulatory Commission conceded that sometimes the best thing—both economically and environmentally—for the public and everyone involved [was] to remove the dam and restore the river” (Trout Unlimited, 1999, p. 35).

Trout Unlimited’s actions provide evidence for the transformation of non-profit groups during the 1990s and their application of Kingdon’s Policy Streams model. TU relied on its local members as the initial policy entrepreneurs to find arenas for debate about dam removal. TU National then escalated the priority of local efforts that required more professional involvement, using their network of scientists supported by the CCF to submit documents to FERC advocating dam removal during the comment periods specified under the ECPA. Although the comment periods would still have been open as required by law, it is doubtful that full appreciation of the environmental consequences of relicensing could have been impressed upon the Commissioners without both the initial effort by TU members to gather the coalition and the sustained technical assistance supported by TU’s CCF.

The 7,000 pages submitted by the Kennebec Coalition in 1996 marked a veritable volte-face by the FERC. This action was directly catalyzed by TU volunteer participation, as is reflected in a FERC commissioner’s remark that the agency “got this wrong” (Lowry, 2003, p. 79). By all available accounts, this remark was offered when Trout Unlimited members remained at a hearing after the Edwards Manufacturing company had made

its case and departed. This clear demonstration of the effect of citizen participation under BBT underscores the importance of TU actions in overturning FERC's decision, Betsy Ham of the Natural Resources Council of Maine noted that on the Kennebec "it took fisherman below the dam to start thinking about removal" before the arena could be expanded to include higher-level groups (Lowry, 2003, p. 78).

Generalizing about interest group participation in the US, PEGs seem to perform best in policy arenas where scientific fact plays a prominent role in decision-making processes. Bureaucrats in the Executive branch frequently possess complete autonomy from other branches of government when implementing policies that affect isolated geographic regions. Despite a historical propensity for one-dimensional decision-making, agencies are now required by law to base decisions on science. Because of this mandate the conventional science-supported tactics of PEGs are well-suited for interfacing with bureaucrats. PEGs may be better at pursuing regional goals of the environmental community than public noneconomic groups because the latter are more likely to use expressive tactics that are less effective in agency policy debates. Public noneconomic groups are also less likely to tackle specific fights that seem to benefit only a fraction of their diverse memberships, preferring to advocate for more diffuse goals that benefit all. PEGs occupy an increasingly important role in environmental advocacy, especially where expert knowledge is required to achieve results.

John Ross writes in Rivers of Restoration that "in agreeing with the state of Vermont and Trout Unlimited, [the Commission] opened the door for challenges to

other dams on other rivers” (Ross, 2008, p. 38). With the Clyde River case FERC determined that it possessed the authority to “require the decommissioning (including removal) of dams at licensee expense at the end of their license term” (Trout Unlimited, 1999, p. x). This declaration was completely endogenous and not based on statute. The comment periods required by the ECPA enabled citizens and interest groups to voice their concerns and led to a change in the final recommendation. This declaration of authority to consider dam removal addressed the statutory ambiguity that had characterized dam removal debates prior to 1994. Removal of Newport No. 11 was therefore an important precedent set by FERC and an outright victory for the coalition, particularly so for Trout Unlimited.

The Edwards Dam removal marked the first time that license renewal had been denied despite objections by the licensee, emphasizing the newfound power of FERC to shape river restoration policy. It showed how the combination of grassroots organization and national support made TU’s chapter-based formula so successful. The Kennebec case is also informative because a recommendation for dam removal was only secured after TU and other groups submitted comments to the Draft Environmental Impact Statement. This suggests that although the FERC Commissioners had the power to remove dams, they were still unwilling to suggest such measures without continual pressure from TU and other interest groups. Looking through the lens of BBT it seems that citizen and interest groups encouraged a change in agency opinion by participating according to the rules of the agency.

## **Part VII: The Future**

In 2011, dam removal remains a source of debate in the FERC. The Commission still lacks clear statutory authority to mandate dam removal, and no framework has been established to facilitate the removal process after the agency renders a decision. The Kennebec decision process in particular foreshadows potential issues for present-day dam removal advocates. After the FERC denied the relicense application it did not stipulate details of the dam removal. Funding recommendations were conspicuously absent. If the frequency of dam removals is to increase in the future, sources of funding may have to be spelled out in statute.

The hydropower industry is nervous about the precedent being set for its members and has since “encouraged FERC to state that it had made a mistake and lacked jurisdiction” (Lowry, 2003, p. 81). Future removal politics hinge on interpretation of this second point. The Edwards Dam owners were quick to denounce the actions of the FERC as “a ‘takings,’ wherein the federal government restricts the use of private property without just compensation,” and claimed that this made the dam removal recommendations unconstitutional (Lowry, 2003, p. 81). Ironically, Steve Brooke cited the TU members’ participation in the pivotal FERC hearing as “an exercise in democracy” (Lowry, 2003, p. 79). These opinions reflect a politically charged difference of opinion over the appropriate degree of Federal involvement in private affairs, even when private actions have negative impacts on the environment. Legislative debate and a new dam removal law may prove more constructive and less costly than a fight in the

courts; it could address concerns on both sides by enumerating the obligations of dam owners during the removal process and setting compensation levels for loss of private property.

Above all, these issues illuminate the need for actionable research in dam removal policy. The culture of the FERC's eleven constituent offices warrants further investigation with BBT, especially in how it affects the initial recommendations and DEIS statements released by the Commission. Further study of the degree to which FERC officials were predisposed towards dam removal in 1994 and how much it can be attributed to the ECPA could provide an interesting back story for future endeavors in the field. With the results of such research it may be possible to streamline relicensing or removal by working with FERC staffers to redefine processes within the agency. For the time being it appears that an EIS is the most valuable tool for providing a framework for environmental decision making within the agency, although the cost in time and money for putting together such documentation is substantial. To accelerate decision-making in the future it may be necessary to develop a process that mimics the environmental sensibility of the EIS, but fits into the idiosyncrasies of the hydropower industry and accommodates the unique scientific issues accompanying ecosystem restoration. One thing is evident: these first examples of dam removal will have a waterfall effect on the politics of river restoration in a manner much akin to the way the first stream of water flows over a breached dam, signifying a new era of purification and rebirth.

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